

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re U.S. National Phase of International	)	
Application No. PCT/EP2003/050746 of:	)	
Inventors: <b>Massimo PIZZORNO et al.</b>	)	Group Art Unit: 2883
	)	Examiner: G. ANDERSON
Application No.: 10/576,606	)	
	)	
371 Date: November 27, 2006	)	Confirmation No.: 2115
	)	
PCT Filed: October 23, 2003	)	
	)	
For: TELECOMMUNICATION OPTICAL	)	
CABLE FOR GAS PIPELINE	)	
APPLICATION HAVING BUILT-IN	)	
LEAKAGE DETECTING DEVICE	)	

**MAIL STOP: AF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

In reply to the Final Office Action dated April 29, 2008, the period for response having been extended to September 29, 2008, by a request for extension of two months and fee payment filed concurrently herewith, Applicants respectfully request panel review of the outstanding rejection under 35 U.S.C. § 103(a) identified in the Remarks below. This Request is being filed in conjunction with a Notice of Appeal under 37 C.F.R. § 41.31.

### **Rejection Under 35 U.S.C. § 103(a)**

In the Final Office Action, the Examiner rejected claims 23-48<sup>1</sup> under 35 U.S.C. § 103(a) as allegedly unpatentable U.S. Patent No. 6,536,463 to Beals et al. ("Beals") in view of U.S. Patent Application Publication No. 2002/0125413 A1 to Saini ("Saini"). See Apr. 29, 2008, Final Office Action at 2-5.

The Examiner's position is that "Beals discloses a method for installing optical fiber cables in pressurized gas pipelines. [Abstract, Col. 1, lines 55-60.]" *Id.* at 3. The Examiner acknowledges that Beals does not specifically disclose "one or more gas leakage detector optical fibers, said one or more gas leakage detector optical fibers being enclosed within the outer jacket and separated from the optical core," as required by claim 23 [48]. *Id.* The Examiner relies upon Saini, which the Examiner asserts "discloses a sensor distribution network that uses optical fibers to monitor leak detections over long pipelines such as gas and oil pipelines. [Abstract, paragraph 48.]" *Id.* Thus, the Examiner concludes that "it would have been obvious . . . to combine the leak detecting fibers of Saini with the installed optical fiber cables of Beals in order to monitor for leaks in the pipeline as well as transmit voice and data over long distances." *Id.* at 4. Applicants respectfully disagree.

Several basic factual inquiries must be made in order to determine whether or not claims are obviousness under 35 U.S.C. § 103. These factual inquiries, set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459, 467 (1966), require the Examiner to:

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<sup>1</sup> In the Final Office Action, the Examiner rejected claim 1. Applicants believe that this was an inadvertent mistake as claims 1-22 were previously cancelled and replaced with claims 23-47. Claim 48 was added in a prior response.

- (1) Determine the scope and content of the prior art;
- (2) Ascertain the differences between the prior art and the claims in issue;
- (3) Resolve the level of ordinary skill in the pertinent art; and
- (4) Evaluate evidence of secondary considerations.

The obviousness or nonobviousness of the claimed invention is then evaluated in view of the results of these inquiries. *Graham*, 383 U.S. at 17-18, 148 U.S.P.Q. at 467.

Thus, in order to carry the initial burden to establish a *prima facie* case of obviousness that satisfies the *Graham* standard, the Examiner must show, *inter alia*, (1) that the prior art reference teaches or suggests all the claim limitations, and (2) that there is some reasonable expectation of success. See M.P.E.P. § 2143.

In the instant case, the Examiner has not and cannot establish a *prima facie* case of obviousness because Saini does not teach a system that can detect leaks from within Beals' gas pipeline and, thus, there is no reasonable expectation of success from the proposed combination.

**A. “one or more gas leakage detector optical fibers”**

Applicants' claims are directed to fiber optic cables for use in gas-line applications. As acknowledged by the Examiner, such gas pipelines are pressurized (see Apr. 29, 2008, Final Office Action at 2), and, thus, there is a concern for leaks from these gas pipelines into the environment. The claimed fiber optic cables comprise one or more gas leakage detector optical fibers. When inserted in a pipeline, such as by the method of Beals, the claimed gas leakage detector optical fibers detect whether there is leakage of gas from the pressurized pipeline and into the environment.

Saini does not teach or suggest, however, a leakage detector that from within the gas pipeline could measure a leakage from that pipeline. “The sensor described [in Saini] can only detect liquid and not vapors, and would have to come in contact with the

liquid hydrocarbon before the sensor was triggered.” Saini at ¶ [0012]. Saini’s sensors operate by detecting the presence of target chemicals in the environment. See, e.g., *id.* at ¶¶ [0002], [0003], [0013] to [0018]. In other words, Saini merely discloses a leakage detector that responds to the presence of a liquid hydrocarbon, such as gas, due to a leak from a hydrocarbon source into the environment, where the sensor resides in the environment and not in the pipeline with the hydrocarbon source, as required by the claims. In the context of an optical cable inserted into a pipeline, a person of ordinary skill in the art would expect Saini’s sensor to be constantly “triggered” by the ever present gas in the pipeline, whether or not there was a leak. If there was a leak, Saini’s sensor would not be expected to respond thereto because the gas still present in the pressurized pipeline would continue to “trigger” the sensor.

This is why Saini teaches away from the Examiner’s proposal, disclosing that the optical fiber “typically run adjacent an oil or gas pipeline or some other form of construction which requires monitoring for pollutants, such as hydrocarbons.” *Id.* at ¶ [0061] (emphasis added). As a person of ordinary skill in the art would recognize Saini’s sensors is designed for installation outside (adjacent to) a gas pipeline, not inside a gas pipeline.

Importantly, nothing in Saini even remotely suggests that its sensors can be modified to detect the leakage from a pipeline from within the pipeline. That is what Applicants’ discovered how to do.

Furthermore, Saini does not even teach gas leakage detector optical fibers. Rather, Saini teaches the use of sensors, which are attached to optical fibers. See,

*e.g., id.* at Abstract. It is these sensors that are alleged to detect gas, not the optical fibers themselves, as claimed.

Accordingly, for at least the reasons above, Applicants respectfully assert that they have rebutted the Examiner's case of obviousness, and respectfully request the withdrawal of this rejection.

**B. "said one or more gas leakage detector optical fibers being . . . separated from the optical core"**

Finally, claim 48 also recites that the at least one leakage detector optical fiber is enclosed within the outer jacket and separated from the optical core. The Examiner has yet to address how either Beals or Saini teaches or suggests this limitation. Since Beals does not teach leak detectors, its teachings are deficient. Further, while Saini teaches an optical fiber detection system, it does not teach or suggest such a system incorporated into a separate "optical core comprising a number of telecommunication optical fibers," and, thus, cannot even recognize, let alone suggest or teach, the need for separation. Therefore, Applicants respectfully submit that claim 48 is patentable over Beals and Saini for at least this additional reason.

Please grant any extensions of time required to enter this paper and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: September 24, 2008

By: 

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